

Report of the Smalley Foundation Committee

WE ARE presenting herewith the 23rd report of the Smalley Foundation Committee of the American Oil Chemists' Society. During these past twenty-three years considerable progress has been made in the accuracy of the determination of Oil and Nitrogen on cottonseed meal. The results obtained in the determination of nitrogen were slightly higher than last year, while the combined oil and nitrogen results and the oil results were lower. It must be understood, in gauging the accuracy of the results a difference of two points in either direction from the average is permitted without a deduction from the grade.

As usual, thirty samples of cottonseed meal were distributed to the collaborators.

There are attached to this report four tables indicating the standing in percentage of the members taking part. Table No. I gives the standing of 57 collaborators who reported Oil determinations on all samples. Table No. II gives the standing of 65 collaborators who reported Nitrogen results on all samples. Table No. III gives the standing of 57 collaborators who reported oil and nitrogen on all samples. In these tables we have taken into consideration the results of those reports which were received within the time specified in our original announcement of the Smalley Foundation work. In Table No. IV we have the standing of those collaborators who reported on all samples, but some of whose reports were received too late to be included under the rules.

The winning collaborators are as follows:

The "American Oil Chemists' Society Cup" for the highest efficiency in the determination of both Oil and Nitrogen on all samples is awarded to Analyst No. 14, Russell Haire, Planters Manufacturing Company, Clarksdale, Miss., with an average of 99.977 percent. The average efficiency is lower than that of last year, which was 99.993 percent. The certificate for second place goes again to Chas. W. Rice and Company, Columbia, S. C., Analyst No. 86, who had an efficiency of 99.961 percent, as compared with 99.987 percent for last year.

The certificate for the highest efficiency in the determination of Oil only is awarded to Analyst No. 14, Russell Haire, Planters Manufacturing Co., Clarksdale, Miss., with an average of 99.968 percent, as compared with 100.00 percent for last year. The certificate for second place goes to Analyst No. 86, Chas. W. Rice and Company, Columbia, S. C., who won this same certificate last year, with an efficiency of 99.932 percent as compared with 99.989 percent for last year.

The certificate for the highest efficiency in the determination of Nitrogen is awarded to Analyst No. 23, A. G. Thompson, Jr., Southern Cotton Oil Company, Columbia, S. C., with an average of 99.996 percent, as compared with 99.985 percent for last year. The certificate for second place goes to Analysts Nos. 18, 32, and 86, R. H. Fash, Fort Worth Laboratories, Fort Worth, Texas, T. L. Rettger, Buckeye Cotton Oil Com-

pany, Memphis, Tenn., and R. M. Simpson, Chas. W. Rice and Company, Columbia, S. C., with an average of 99.990 percent, as compared with 99.975 percent for last year.

We are again including in this report a list of the previous winners of the highest award for both Oil and Nitrogen. They are as follows:

- 1918-1919 G. C. Hulbert, Southern C. O. Co., Augusta, Ga.
- 1919-1920 G. C. Hulbert, Southern C. O. Co., Augusta, Ga.
- 1920-1921 C. H. Cox, Barrow-Agee Lab's., Memphis, Tenn.
- 1921-1922 Battle Lab's., Montgomery, Ala.
- 1922-1923 Battle Lab's., Montgomery, Ala.
- 1923-1924 L. B. Forbes, Memphis, Tenn.
- 1924-1925 E. H. Tenent, International Sugar Feed Co. No. 2, Memphis, Tenn.
- 1925-1926 Battle Lab's., Montgomery, Ala.
- 1926-1927 W. F. Hand, Miss. State College, State College, Miss.
- 1927-1928 E. H. Tenent, International Sugar Feed Co., Memphis, Tenn.
- 1928-1929 Geo. W. Gooch Lab's., Los Angeles, Calif.
- 1929-1930 Southwestern Lab's., Dallas, Texas.
- 1930-1931 W. F. Hand, Miss. State College, State College, Miss.
- 1931-1932 J. N. Pless, Royal Stafolife Mills, Memphis, Tenn.
- 1932-1933 J. B. McIsaac, International Veg. Oil Co., Savannah, Ga.
- 1933-1934 W. F. Hand, Miss. State Colelge, State College, Miss.
- 1934-1935 W. F. Hand, Miss. State College, State Colleg, Miss.
- 1935-1936 N. C. Hamner, Southwestern Lab's., Dallas, Texas.
- 1936-1937 N. C. Hamner, Southwestern Lab's., Dallas, Texas.
- 1937-1938 W. F. Hand, Miss. State College, State College, Miss.
- 1938-1939 W. F. Hand, Miss. State College, State College, Miss.
- 1939-1940 A. G. Thompson, Jr., Southern C. O. Co., Columbia, S. C.
- 1940-1941 Russell Haire, Planters Mfg. Co., Clarksdale, Miss.

Mr. Thos. C. Law has for many years been taking care of the preparation and distribution of the samples. His painstaking and careful work is indicated by the lack of complaints from the collaborators and we wish to commend his efforts in behalf of the Society.

TABLE NO. I.
Determination of Oil

| Analyst No. | Points off | Per Cent Efficiency |
|-------------|------------|---------------------|
| 14 | 6 | 99.968 |
| 86 | 13 | 99.932 |
| 20 | 15 | 99.920 |
| 8-15-32 | 16 | 99.916 |
| 45-50-55 | 20 | 99.893 |
| 23 | 21 | 99.889 |
| 10 | 26 | 99.862 |
| 52 | 29 | 99.846 |
| 24 | 30 | 99.841 |
| 6 | 31 | 99.836 |
| 74 | 32 | 99.830 |
| 13-67 | 33 | 99.825 |
| 62-72 | 34 | 99.820 |
| 12-49 | 35 | 99.814 |
| 69 | 36 | 99.809 |
| 26 | 40 | 99.788 |
| 66 | 44 | 99.766 |
| 3-5-64 | 45 | 99.761 |
| 63 | 46 | 99.757 |
| 43 | 48 | 99.746 |
| 35 | 49 | 99.741 |
| 89 | 50 | 99.734 |
| 19-28 | 54 | 99.714 |
| 85 | 55 | 99.709 |
| 2-90 | 63 | 99.666 |
| 34 | 64 | 99.661 |
| 73 | 68 | 99.639 |
| 22 | 69 | 99.634 |
| 60 | 70 | 99.629 |
| 18 | 76 | 99.598 |
| 25 | 80 | 99.575 |
| 53 | 84 | 99.555 |
| 51 | 85 | 99.550 |
| 9 | 91 | 99.518 |
| 17 | 123 | 99.348 |
| 4 | 126 | 99.332 |
| 82 | 148 | 99.216 |
| 78 | 157 | 99.168 |
| 76 | 165 | 99.125 |
| 1 | 179 | 99.051 |
| 59 | 180 | 99.046 |
| 21 | 197 | 98.955 |
| 57-71 | 203 | 98.923 |
| 33 | 278 | 98.526 |
| 79 | 350 | 98.144 |

TABLE NO. II
Determination of Nitrogen

| Analyst No. | Points off | Per Cent Efficiency |
|-------------|------------|---------------------|
| 23 | 1 | 99.996 |
| 18-32-86 | 2 | 99.990 |
| 14-19 | 3 | 99.985 |
| 6-26-52 | 6 | 99.971 |
| 55-74 | 7 | 99.966 |
| 15-69-89 | 8 | 99.961 |
| 20-48 | 9 | 99.956 |
| 9 | 11 | 99.946 |
| 17-45 | 12 | 99.942 |
| 10-49-68 | 13 | 99.937 |
| 3-25 | 14 | 99.931 |
| 43 | 18 | 99.912 |
| 51-84 | 19 | 99.908 |
| 60-67-73-76 | 21 | 99.898 |
| 34 | 22 | 99.893 |
| 50-75 | 23 | 99.887 |
| 2 | 26 | 99.873 |
| 22-35 | 27 | 99.868 |
| 63 | 28 | 99.864 |
| 82 | 29 | 99.858 |
| 8 | 30 | 99.854 |
| 72 | 31 | 99.849 |
| 13 | 33 | 99.838 |
| 1 | 34 | 99.835 |
| 28-42 | 37 | 99.820 |
| 78 | 38 | 99.814 |
| 90 | 41 | 99.800 |
| 31 | 44 | 99.785 |
| 4 | 46 | 99.776 |
| 66 | 47 | 99.770 |
| 12 | 51 | 99.751 |
| 53-64 | 55 | 99.732 |
| 24-33 | 58 | 99.718 |
| 5 | 59 | 99.712 |
| 21 | 60 | 99.708 |
| 59 | 67 | 99.674 |
| 85 | 72 | 99.649 |
| 62 | 75 | 99.634 |
| 41 | 107 | 99.478 |
| 71 | 125 | 99.390 |
| 57 | 130 | 99.367 |
| 79 | 222 | 98.918 |
| 58 | 253 | 98.767 |

TABLE NO. III.
Determination of Oil and Nitrogen.

| Analyst No. | Per Cent Efficiency | Analyst No. | Per Cent Efficiency |
|-------------|---------------------|-------------|---------------------|
| 14 | 99.977 | 34 | 99.777 |
| 86 | 99.961 | 2 | 99.770 |
| 32 | 99.953 | 73 | 99.769 |
| 23 | 99.943 | 66 | 99.768 |
| 15 | 99.939 | 28 | 99.767 |
| 20 | 99.938 | 60 | 99.764 |
| 55 | 99.930 | 25 | 99.753 |
| 45 | 99.918 | 22 | 99.751 |
| 52 | 99.909 | 64 | 99.747 |
| 6 | 99.904 | 5 | 99.737 |
| 10 | 99.900 | 90 | 99.733 |
| 74 | 99.898 | 9 | 99.732 |
| 50 | 99.890 | 51 | 99.729 |
| 8-69 | 99.885 | 62 | 99.727 |
| 26 | 99.880 | 85 | 99.679 |
| 49 | 99.876 | 17 | 99.645 |
| 67 | 99.862 | 53 | 99.644 |
| 19 | 99.850 | 4 | 99.554 |
| 89 | 99.848 | 82 | 99.537 |
| 3 | 99.846 | 76 | 99.512 |
| 72 | 99.835 | 78 | 99.491 |
| 13 | 99.832 | 1 | 99.443 |
| 43 | 99.829 | 59 | 99.360 |
| 63 | 99.811 | 21 | 99.332 |
| 35 | 99.805 | 71 | 99.157 |
| 18 | 99.794 | 57 | 99.145 |
| 12 | 99.783 | 33 | 99.122 |
| 24 | 99.780 | 79 | 98.531 |

TABLE NO. IV.
Special Table.

| Analyst No. | Points Off | Per Cent Efficiency |
|-------------|-----------------------------------|---------------------|
| 7 | Determination of Oil | 99.666 |
| | 63 | |
| 39 | Determination of Nitrogen | 99.854 |
| | 30 | |
| 7 | 41 | 99.800 |
| 7 | Determination of Oil and Nitrogen | 99.733 |
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SMALLEY FOUNDATION COMMITTEE:

L. B. CALDWELL
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